Directives System Assessments

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Prepared by:
The Directives System
Mid-Course Assessment Team

DIRECTIVES SYSTEM ASSESSMENTS

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*The Directives System Mid-Course Assessment, prepared by the Directives System Mid-Course Assessment Team

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EXECUTIVE SUMMARY

One of the key features of the Directives System Improvement Process which was initiated in 1992 was to ensure continuous improvement in the operation of the Directives System and the quality of the directives contained therein. This report consolidates several different assessments and evaluations of the Directives System that have taken place during 1996: a Mid-Course Assessment, which was requested at the Quality Summit of June 1996; an Editorial Satisfaction Survey; a Self-Assessment conducted by the Office of Organization and Management; and a Directives Cost Impact Evaluation.

The most important of the assessment activities was the **Directives System Assessment**. The team conducting the Assessment gathered information from questionnaires and from focus groups throughout the Department. The team found agreement throughout the complex -- that the design of the Directives System is rational; however, there are serious implementation issues remaining. In an effort to resolve these implementation issues, the team recommended:

- The role and membership of the Directives Management Board be expanded to address how the Department issues policies, requirements, and guidance; take a collegial approach to reaching agreement on major system issues; and encourage better integration and alignment between the Rules System, Technical Standards, and the Directives System.
- o Inclusion of proactive policy, problem solving, and major issue resolution involving individual directives in line management responsibilities.
- o Assignment of sufficient directives management resources and responsibility to carry out the Directives Management Board's policy decisions.
- o The Directives Management Group finish implementing directives system changes, making enhancements, and improving communications and directives system tools.

The findings of the **Editorial Satisfaction Survey** and the **Directives System Assessment** provided valuable information and their findings were consistent with the much broader **Mid-Course Assessment**. The **Directives Cost Impact Evaluation** provided the first direct feedback on what the Department anticipated would be the result of the recent directives reduction effort -- an estimated cumulative 5-year cost avoidance of nearly \$114 Million for seven revised Orders.

The findings and recommendations have been submitted to the Quality Summit '96 Roles Transformation and Customer-Supplier Alignment teams and have been discussed with those teams.

DIRECTIVES SYSTEM ASSESSMENTS

I. INTRODUCTION AND BACKGROUND

This report provides an assessment of the implementation of the Department of Energy Directives System. The assessment addresses policies, orders, manuals, notices and guides, but does not discuss rules or technical standards which are handled through separate systems.

In 1991, in response to the concerns of the Directives System user community, Human Resources convened a Directives Improvement Team with membership that cross-cut all elements of the Department. Using a process quality improvement approach, the Team identified 20 requirements deemed critical to the success of the Directives System. Secretary O'Leary approved the "new" System in December 1993, and implementation of the new System began.

Not all of the key elements of the system have been implemented; however, the following actions have been completed: some training offered throughout the department; new and simplified directives formats; distribution and availability via electronic means (E-mail and Explorer on the Department's Home Page); a numbering system which will group directives with like subjects together; and a new policy (DOE P 251.1) which institutionalizes the key elements of the System.

Several recent initiatives have assessed the success of the implementation to date:

- A. Mid-Course Assessment (Quality Summit) July 1996
- B. Editorial Survey, August 1996
- C. Directives Self Assessment, June 1996
- D. Directives Cost Impact Evaluation, January 1996

This report addresses the Mid-Course Assessment. The other reviews are included in the Attachments.

II. ASSESSMENT ACTIVITIES

Directives Mid-Course Assessment

In response to concerns raised in both the Role Transformation Team and the Customer-Supplier Alignment Team, during the Quality Summit in June 1996, a Directives System Mid-Course Assessment was conducted to determine the effectiveness of Directives System improvements since 1992, as well as seek additional information on what is and is not working well in the development, coordination and implementation of directives.

Representative customer and stakeholder viewpoints, opinions, and experiences were solicited through 18 facilitated focus groups conducted at Headquarters, Field and Contractor Offices.

The assessment team included representatives of each of the DOE and contractor user communities. Focus group participants consisted of order writers, reviewers, and implementors.

Thirty-one additional responses were received via a Department-wide Internet Survey on Explorer.

The Directives System Mid-Course Assessment Team analyzed all the quantitative and qualitative data received and identified the major problematic issues for each of the three Directives Systems process areas (Development, Coordination, and Implementation). The group's discussions keyed on those areas in the process where customer group(s) had indicated that the process area was of high importance and the current performance level was less than satisfactory. The group then developed problem statements to characterize the systemic issues, analyzed probable causes, and discussed alternatives and recommendations.

Findings:

- 1. The design of the Directives System is rational and has been validated through the responses to the focus groups and questionnaires. However, there are serious implementation issues remaining. (See Attachment A for a list of 13 specific key issues.)
- 2. Implementation of the Directives System has been hampered by the root causes outlined below:
- a. Lack of discussion and agreement among senior managers on integration and implementation of different initiatives has hampered the development of a consistent policy base for the Department. This confusion is reflected in lack of policy in key areas, conflicting policy and directives documents, and lack of acceptance by some Departmental elements of newly established policies. Examples:
 - (1) The Functional Assignments and Responsibilities Manual, various Orders, and DOE P 450.2A, Transition to New Orders and Directives, all describe different systems of how Headquarters, Field Offices, and Departmental contractors should relate to each other. It is difficult to determine which of these documents is controlling in the event of conflicts.
 - (2) Policy decisions have been made regarding the use of the Work Smart Standards process, implementation of performance based contractor management, and reliance on industry based standards. However, some Order writers are slow to move away from detailed and specific requirements, some Departmental Headquarters and field personnel are unwilling to give up prescriptive control over Departmental contractors, and some Departmental contractors are unwilling to accept the greater responsibility inherent in these systems.
- b. Change in a major management system such as the Directives System is difficult and costly, particularly when multiple initiatives compete for shrinking resources. It requires significant, long-term commitments of time and resources to develop new systems, provide outreach and training to all parts of the Department and to its contractors about system changes, and ensure changes in process and philosophy are implemented and institutionalized. DOE has expended substantial resources to identify changes that need to be made but has not been successful in committing resources to make the changes happen. Across the Department, staff have been and will continue to be involved in a number of competing initiatives (for

example, the accelerated directives reduction effort and the Strategic Alignment Initiative) that have further slowed the pace of implementing Directive System changes.

Recommendations:

Two approaches to address the problems identified were discussed. The first is to address the key management issues affecting the way policies are implemented in the Department by reaching mutual understanding and agreement on how to proceed in a manner that will avoid overlap, conflicts, and redundancies while meeting management needs.

The second approach is to continue fixing specific problems and implementing pieces of the Directives System as time and priorities permit. Without better agreement on policies, needs, and overall priorities, this approach will work more slowly and will not fully address policy and integration issues.

The recommendations listed below combine the two approaches into a model that will facilitate system-level fixes while addressing the larger management issues that are affecting the Directives System.

1. For implementation by Secretarial Approval:

Expand the role of the Directives Management Board (DMB) to address how the Department issues policies, requirements, and guidance. It should operate in a manner similar to the Department Standards Committee, taking a collegial approach that includes broad representation of various stakeholders to reach agreement on major system issues. The DMB should encourage better integration and alignment between the Rules System, Technical Standards, and the Directives System, and ensure full implementation of those systems' designs to meet all customer requirements. The DMB should meet regularly on a fixed schedule, with greatly expanded DOE field membership.

2. For implementation by all Cognizant Secretarial Officers:

Include proactive policy, problem solving, and major issue resolution involving individual directives in line management responsibilities. Success in this area would be reflected by a reduced and manageable backlog of open policy issues and unresolved major issues with individual directives.

3. For implementation by all Managers in the Department:

Assign sufficient directives management resources and responsibility to carry out the DMB's policy decisions and enhance the directives management function through a strong core staff supported by an effective Headquarters, Field Office, and Departmental contractor network.

4. For implementation by the Directives System Manager/Human Resources Directives Management Group:

Obtain matrix support and representation among major user groups. This may require a formal endorsement of the effort by the Chairman of the DMB. Establish a system to track and report the status of open policy issues and major issues with individual directives. Continue development of action plans that deal with specific implementation issues identified through the focus groups and questionnaire responses. Topics identified are listed below. Items already under development are marked with an asterisk.

- a. Finish implementing directives system changes, make enhancements as needed.
 - (1) Improve instructions for DMD content.
- * (2) Finish sunset review of old Orders to bring them into alignment with new system.
- * (3) Implement a system for estimating the implementation cost of a directive, and determine how this information should be used to assess the need for the directive.
 - (4) Establish a more formal system for documenting mutually agreed upon resolution and disposition of major issues in an organized and timely fashion.
 - (5) Strengthen cross-functional teaming process.
 - (6) Strengthen system management and quality control function (rogue directives (documents which should be included in the directives system but are issued outside of the system), prescriptive guides, overly prescriptive requirements, document standards, schedule control, etc.).
- b. Improve communications and directives system tools.
- * (1) Add "alert" system to notify customers of newly issued directives.
- * (2) Develop a home page or electronic bulletin board with directives system news. This could include status information on draft directives, schedule for reviewing old directives, information on directive system changes, etc.
- * (3) Issue a writers'/reviewers' guide covering both requirements and guidance documents.
 - (4) Develop and deliver training to target audiences, including ongoing team building: forums for directives Points of Contact and others as needed.
- * (5) Enhance distribution lists of people that need to receive routine communications on directives issues.
 - (6) Conduct a distribution needs analysis to determine which customers still need paper copies.
- * (7) Implement an electronic comment/response system.

Editorial Survey

The Office of Human Resources has been providing editorial assistance in writing directives to all Departmental Elements for the past 2 years. In conjunction with the activities of the Mid-Course Assessment team, an Editorial Satisfaction Questionnaire was developed to assess the editorial assistance that has been provided to writers during the preparation of directives. Questionnaires were sent to 39 Offices of Primary Interest that have had direct experience with editorial assistance in preparing directives. Attachment B contains the Editorial Survey.

Findings:

Responses were mostly positive in all areas, and indications are that the editorial service provided added value to the process. Acceptance of editorial/writing assistance is generally improved when the editor is involved early in the process and agreements have not already been made on how to express controversial points. Overall, feedback from Order writers indicated that the editorial/writing service resulted in improvement in the editorial quality of the new directives.

<u>Recommendations</u>: None. It is the intent of Human Resources to continue and expand this service.

Directives System Self-Assessment

In June 1996, a self-assessment of the Directives System was undertaken with primary emphasis on a comparison of the System operations as developed during the System improvement process against current operational practices. In addition, the study also considered: Defense Nuclear Facilities Safety Board (DNFSB) concerns with the System; lessons learned during the Accelerated Reduction Effort; general problems with System operation; and possible performance measurement for future application. See Attachment C for the complete report.

Findings:

The design of the new Directives System adheres closely to the Critical Requirements developed by the Directives Improvement Team, with 16 of the 20 fully addressed. The new System is strongest on Directives development issues, and weakest regarding the process for implementing requirements contained in Orders.

Three of the 4 unaddressed Critical System Requirements related to the implementation process: Directives Implementation Plans, Directives Prioritization Guidance, and Validation and Acceptance Criteria. Activities currently underway, including development of the Directives Style Guide, implementation of the Necessary and Sufficient Process concept, and Work Smart Standards should satisfy the concerns expressed in these 3 requirements.

Recommendations:

Seven recommendations were developed. The first and broadest is: Develop a 3- to 5- year Strategic Plan for the Directives System, to include outreach, continuous improvement, performance measurement, and teaming concepts.

Directives Cost Impact Evaluation

In January 1996, a Directives Cost Impact Team was chartered to develop and implement a Cost Impact Model that would provide a standardized basis for measuring the cost impacts for new, revised, or cancelled directives. That team identified the need for a pilot to: (1) test the model's

viability; and (2) determine if the Directives System improvements and streamlining activities were achieving the intended savings. Seven recently revised Orders that were owned by Environment Safety and Health; Nonproliferation and National Security; and Field Management were selected as the test sample. In the pilot, affected organizations identified changes in requirements for the seven existing Orders and then estimated the cost impact for each of the 5 years covered by the pilot. Cost impact assessment was identified as one of the critical elements of the Directives System. Based on the information gained from the model and pilot, a proposed guide and changes to the Order and Manual will be circulated for coordination and comment at the end of September 1996. Attachment D contains the Cost Impact Estimate Pilot Assessment.

Findings:

The pilot participants agreed that the Model: 1) provides a structured approach to quantifying the cost impacts of implementing new directives, and 2) identifies the need for careful evaluation of Directive requirements when developing or revising Orders. The input received from across the Department shows an estimated cumulative 5-year cost avoidance of nearly \$114 Million for these seven Orders.

Recommendation:

Cost Impact assessments should be made part of the directive writing and coordination process.

III. SUMMARY

The findings of the various assessments validated the design of the new directives system and the desire to understand the cost impact and value of new directives as they are being developed. The parts of the new system that have been implemented have improved the overall quality and performance of DOE's directives. The most far-reaching of the assessment activities were the focus groups conducted by the Directives System Mid-Course Assessment Team. These groups confirmed both the value of the system's design and the need for many of the changes contained in the other assessment reports; and specifically confirmed that successful implementation of the "new" Directives System requires concern and involvement of the entire Department.

DIRECTIVES MID-COURSE ASSESSMENT TEAM ACTIVITIES

Team members attending the first meeting at Chicago Operations Office on July 16-17, 1996, developed team objectives, methodology, operational time frame, structure of the focus groups, and the draft questionnaire to obtain the required data. In an effort to reach as many Department and contractor employees as possible, the team opted to place the questionnaire on Explorer, the Directives System on-line application. It was determined that a questionnaire on the Directives System editorial service would be sent to order writers to solicit their comments.

Over the next few weeks, team members finalized the questionnaire and contacted selected organizations within the Department's complex to arrange for focus groups. The questionnaire was tested at the Area Office Manager's meeting in July and refined based on their comments prior to gathering data. Eighteen focus groups were conducted throughout the DOE complex. Two team members facilitated at each focus group meeting.

Focus groups were structured to get a cross-section of the organizations, as well as a cross-section of functional areas. Four focus groups were held at Headquarters, 7 at Field Offices and 7 at Departmental contractor sites.

Upon completion of the focus groups, the team met in Albuquerque on September 9-11, 1996 to assimilate all the information that had been collected, as well as the responses received from the questionnaire placed on Explorer.

The following process was used to identify problems and develop the findings and recommendations found in the report:

- o Summarize comments from all focus groups, by question: A1, A2...C4
- o Review "Results" and "Question" responses, Explorer responses and Bin items
- o Develop list of "significant few" key issues by directives system process; development, coordination, implementation, overall
- o Develop action plans to address key issues
- o Write team report
- o Develop final presentation
- o Focus and Work on:
 - o Define the group's overall findings and recommendations
 - o Develop key next steps
 - o Develop action plans by group (A, B C, O)

The team identified thirteen specific key issues (which follow) from the responses received from across the complex. The attached quantitative data derived from the questionnaire was averaged by focus group category. Also attached are the team membership list, team charter, and focus group schedule.

SPECIFIC KEY ISSUES

Through comments in the focus groups and responses to the questionnaire, 13 specific key issues were identified in the three directives process areas (Development, Coordination, and Implementation).

A. The Directives Development Process

- 1. The advanced notification process is not effective. Directives Management Documents (DMDs) are not issued on all Orders or are not issued early enough in the development process; implementors are not receiving DMDs or are unsure what to do with them; and DMDs have not led to discussion of major issues or screened out non-value-added directives. In addition, implementors lack status information on pending directives, and rogue directives are still avoiding the directives process altogether.
- 2. The DMD does not provided information to support decision making. They do not fully address applicability, justify value of new requirements, or address cost impacts.
- 3. Key personnel are not participating in the process to the extent needed. Cross functional teams are not always used; teams are not always complete; teams are not always involved throughout the process; and management is not sufficiently involved to ensure a "corporate" viewpoint.

B. The Directives Coordination Process

- 1. The coordination process relies on experienced and knowledgeable Points Of Contacts (POC) and sufficient management support to ensure a "corporate" viewpoint. Not all POCs have adequate knowledge to fulfill this function; in many cases senior management involvement is inadequate.
- 2. Schedule management has not consistently allowed sufficient time for commenting and issue resolution
- 3. Interaction between Order writers and commenters has been insufficient to achieve understanding and consensus on major issues, and document mutually agreed upon resolution and disposition of major issues in an organized and timely fashion.
- 4. The current electronic (Explorer) system is currently passive and needs to be more active. Need to develop an alert system that notifies customers when new drafts are loaded onto the system; need to expand the distribution list to include all contractor and DOE points of contact; need to address troubles with software conversion/incompatibilities.
- 5. The field is not aware of the process for elevating issues to the DMB and is not secure in providing resources (time, dollars, and political) necessary for such action. The DMB has not demonstrated a degree of comfort with its role in issue resolution.

C. The Directives Implementation Process

- 1. Electronic distribution is generally seen as a great improvement. However, access varies between sites and the system needs to be more active to provide timely information on issuance of new directives. Residual dependence on paper copies is also a problem.
- 2. Contractor Requirements Documents (CRDs) have improved the definition of applicability of directives to contractors. However, not all directives have CRDs and some are poorly written. Some problems still remain on defining applicability by function (e.g., nuclear vs. non-nuclear, Power Marketing Administrations, etc.).
- 3. Work Smart Standards (WSS),Standards Requirements Identification Documents (S/RIDs), and many of the new directives have increased implementation flexibility. However, the exemption process is not effective; there are still misconceptions in parts of the Department that guides contain requirements; and rogue directives continue to limit flexibility.
- 4. Multiple conflicting directions on implementation of Orders is still causing confusion. Example: DOE P 450.2A gives indefinite life to canceled Orders and places additional requirements on implementation of new Orders. It is unclear who determines how an Order will be implemented -- the contractor, field offices, HQ program staff, or OPIs, and this confusion is reflected in different responsibility patterns between Orders and in the various drafts of the FRA Manual.
- 5. The system does not ensure that guides have value: for example, there is no screening process to ensure the need for a guide, and guides are frequently not issued concurrently with the Order when they would be most useful.

DIRECTIVES SYSTEM MID-COURSE ASSESSMENT

DIRECTIVES SYSTEM PROCESS EFFECTIVENESS RATING SCALE AND IMPORTANCE/PRIORITY

		Office of Primary Interest	Program Secretarial <u>Office</u>	Other <u>HQ</u>	Field <u>Office</u>	<u>M&O</u>
A.	DEVELOPMENT	Rating/Prioity	Rating/Prioity	Rating/Prioity	Rating/Prioity	Rating/Prioity
A1.	Advance Notification - Early Alert	5/3	5/3.2	5/3	2/3	2/3
A2.	Screening non-value added issues	5/2.5	5/3.6	3.5/3	2.3	2.3
A3.	Cross Departmental Teams	*6/2.5	2.3	5/-	4.5/3.5	4/4
A4.	Cost Impact Estimate	4/1	2/3.2	5/-	3/2	2.5/2
В.	COORDINATION					
B1.	Availability and Distribution	5.5/3	7/3	5/-	7/3	5.5/4
B2.	Schedule Management	6.5/4	5/3	8/-	4/3	4/3.5
B3.	Addressing Comments, issues,					
	feedback, disposition	5/3	5/4	6/-	3/3	3/4
B4.	Major Issues to DMB	5/1	2/4	4/-	NA/NA	2.5/3
C.	IMPLEMENTATION					
C1.	Timeliness fo Distribution	5/4	6/3	5/-	7/3	6/4
C2.	Defining Applicability	5.5/4	5/3	6/-	3.5/3.5	6/3.5
C3.	Flexibility	5/-	3/4	5/-	7/3	5.5/4
C4.	Establishing/Publishing actions necessary to achieve implementation	3.5/3	4/3	5/-	5.5/4	4/3

The "effectiveness" rating scale ranged from 1 (low) to 10 (high); the importance/priority scale ranged from 1 (low) to 4 (high). The numbers depicted above are averages of the data received in the focus groups.

^{*=} Anomaly

DIRECTIVES SYSTEM MID-COURSE ASSESSMENT TEAM

<u>Name</u> <u>Organization</u>

Matt Smith Allied-Signal Quality Process Advisor

Karen Boardman Albuquerque Operations Office

*Dick Black Environment, Safety and Health

Tim Crawford Chicago Operations Office

Karen Edwards Oak Ridge Operations Office

John Yates Energy Research

Walter Lips Defense Programs

Marti Lydick Organization and Management

Dick Mehl Field Management

Steve McGrath University of California

Marcia Morris Organization and Management

Bobbi Parsons Organization and Management

Jeff Shadley Idaho Operations Office

^{*}Unable to participate due to other commitments, but was kept informed throughout the process.

DIRECTIVES SYSTEM MID-COURSE ASSESSMENT FOCUS GROUP MEETINGS

Focus Group meetings were held at the following locations with the identified organizations within the month of August.

<u>CATEGORY</u>	<u>ORGANIZATIONS</u>	<u>DATE</u>
Headquarters		
OPI-1 OPI-2 PSO OTHER/HQ	EH, NN, FM, HR, CFO EH, NN, FM, HR, CFO ER, EM, DP, FE [ETCS], NE, EE GC, IG, HR5, HR6, PO	August 27 August 20 August 22 August 14
Field Offices		
Contractors	WAPA CH ID OR AL RF KCAO	August 28 August 22 August 15 August 19 August 12 August 27 August 21
Contractors	University of California Westinghouse/Savannah River NREL and Golden Field Office Allied-Signal Pantex Argonne National Laboratory Fernald	August 16 August 29 August 29 August 21 August 13 August 22 August 23

CHARTER

EVALUATION OF DIRECTIVES IMPROVEMENT ACTIONS TEAM

I. Background

During the Quality Summit in June 1996, three teams were established: Performance Measurement, Customer-Supplier Alignment, and Role Transformation. The two latter teams recommended similar actions which were presented to the Secretary at the June 27, 1996, Quality Summit follow-on meeting. The Secretary agreed there should be an evaluation of Agency-wide initiatives and goals. Commitments by both the Role Transformation Team and the Customer-Supplier Alignment Team direct this activity.

The Team is chartered to:

- 1. Assess existing directives initiatives; consider original goals and evaluate implementation; and recommend corrective actions to achieve original goals or define new goals and methods to achieve those goals.
- 2. Inform and gain support of key stakeholders to ensure institutionalization.

II. Membership

Matt Smith, Allied-Signal, is the team Quality Process Advisor. Members include Dick Black (EH), Karen Boardman (AL), Tim Crawford (CH), Karen Edwards (OR), Walter Lips (DP), Steve McGrath (UC), Dick Mehl (FM), Marcia Morris (HR-6), Jeff Shadley (ID), and John Yates (ER). Support is provided by Marti Lydick, Bobbi Parsons (HR-6).

III. Objective

The team will evaluate both the effectiveness of the Directive System redesign and other recent system improvements, as well as what concerns and issues exist regarding the actual directives and their value to the Department. This should include issues of inter-connection between the Directives System, Performance Based Management, Necessary and Sufficient Closure Process, Contract Reform, and other initiatives.

Information gathering will be done through Focus Group Forums throughout the DOE complex. In addition, data will be collected at specific data points in the Directives System.

IV. **Deliverable**

The results of this evaluation will become part of the close-out activities of the Quality Summit by the Role Transformation Team and the Customer-Supplier Alignment Team in a presentation to the Secretary on September 23, 1996. The evaluation will present the findings of this team as well as data from the Cost Impact Model Pilot and a Self- Assessment of the Directives System completed by HR in June 1996.

V. **Desired Outcomes**

It is intended that this mid-course evaluation of directives improvements will indicate the Department's major concerns regarding directives and the recent improvement initiatives. This evaluation should provide information on the source or cause of the problems described, and one of the team tasks will be to recommend solutions for implementation by the Department.

VII. Operation/Time Frame

The team shall complete its objectives by September 30, 1996.

Schedule:

- o Establish team (July 1996).
- o Team completes development of Focus Group Quesionnaire (discussion points) (week of July 22, 1996).
- o Team completes development of Focus Group Meeting schedule (week of July 29, 1996).
- Memo from HR-1 to Assistant Secretaries and Field Office Managers announcing establishment of team, and alerting organizations that they will be requested to participate in the Focus Group Forums (week of August 5, 1996).
 [Copies to Directives Standards Committee members and Directives Points of Contacts]
- o Transmit schedule and topics to organizations participating in Focus Groups (week of August 5, 1996).
- o Complete conduct of Focus Group Meetings (August 31, 1996).
- o Team meeting week of September 9 -- complete draft report including consideration of related material (September 13, 1996).
- o Deliver draft report and presentation material to Quality Summit Presenter (Jim Decker ?) (September 20, 1996).
- o Distribute final report September 30, 1996, including recommendations for Department-wide actions.

Editorial Satisfaction Questionnaire

We sent out 39 questionnaires to people in Headquarters Offices of Primary Interest that have had direct experience with editorial assistance provided by HR-6 over the past 2 years. We received 10 responses (approximately 26%). They can be generally categorized as 9 positive and one negative. Results from the questionnaire, and comments received, are tabulated below.

Question	Responses	Comments
1.The writer/editors I worked with were helpful, courteous, and professional in demeanor	Strongly Agree: 8 Agree: 1 Undecided: 0 Disagree: 1 Strongly Disagree: 0	Agree: The writer/editor was cordial, professional, and helpful. Disagree: Made several changes on original draft that went to substance issues rather than format/edit.
2.The writer/editors provided work in a timely fashion in accordance with schedules agreed upon.	Strongly Agree: 5 Agree: 4 Undecided: 0 Disagree: 1 Strongly Disagree: 0	Agree: Variations in Order instructions and format occurred almost daily which added some confusion and a lot of tension to the process of trying to meet the deadlines imposed. The DOE's first effort should have been directed toward establishing the Order for the directives system. Instead we were writing Orders to a fluctuating format that was no finalized until after our Order was published.
3.The writer/editors clearly identified all changes they recommended be made to the document and provided reasons for recommending the change.	Strongly Agree: 5 Agree: 1 Undecided: 3 Disagree: 1 Strongly Disagree: 0	Undecided: Don't recall any problems. Disagree: Did not get reasons from editors.
4.The editorial and analytical suggestions were appropriate and reflected a good understanding of the document.	Strongly Agree: 4 Agree: 4 Undecided: 1 Disagree: 1 Strongly Disagree: 0	Agree: Need to work with author to maintain the proper tone of document. Author must make final call with <u>assistance</u> from editor. Undecided: The writer/editor was helpful only as an editor as she did not have the depth of program knowledge required to engage in the writing aspects. This statement is not meant to be critical of her capabilities I, too, would have difficulty writing Order requirements for a program of which I had little or no knowledge. Disagree: Not satisfactory
5.The writer/editors were available for telephone consultations on edited drafts and promptly made changes requested.	Strongly Agree: 7 Agree: 3 Undecided: 0 Disagree: 0 Strongly Disagree: 0	

6. The writing/editorial assistance provided has resulted in a better, more clearly written document.	Strongly Agree: 5 Agree: 2 Undecided: 2 Disagree: 1 Strongly Disagree: 0	Agree: But I don't recall any major changes. Undecided: In general I agree; however, the DMD has been received by the field as confusing in its purpose.
7. Having a writer/editor assist with drafting a directive from the beginning of the task would be more helpful than acquiring assistance after the draft document is completed.	Strongly Agree: 6 Agree: 0 Undecided: 2 Disagree: 2 Strongly Disagree: 0	Strongly Agree: Absolutely. Technical editing became a vital process and should be considered very early in the process. Strongly Agree: Probably would be helpful for long documents particularly. For 5 pages total there is probably not much gain. Strongly Agree: As leader of the LCAM process improvement team, I truly appreciate our editor's contribution to a new Order that improves the way DOE does business. Her editorial advice was always appropriate and reflected an excellent understanding of what we wanted to accomplish. She helped us say it better! An editor should be assigned to teams developing Orders if the editor adds value to the process. My experience indicates a definite added value. Disagree: It is always tricky when to bring in an editor. If too early they waste their time and mine on passages which may be deleted, keelhauled, etc. If too late, they don't understand enough and there is time wasted rebuffing edits. Disagree: It took 2 years to develop with technical experts some drafts. The editor is useful at the end of the process.

This is only one point of view on the value of editorial services, that of the Order writer, and does not include any feedback from users whether they can detect any improvement in the editorial quality of the new directives. Direct questions to users on this area would be of limited use since the Order writers are not required to accept any of the editorial/analytical suggestions made.

Discussions with the editors highlighted the following points:

- 1. Acceptance of editorial/writing assistance is generally improved when the editor is involved early in the process and agreements have not already been hammered out on how to express controversial points. This is particularly true where organization of lengthy documents is an issue.
- 2. Acceptance of editorial/writing assistance is partially a function of the personality of the Order writer. Some are grateful for the assistance and others don't want the help and resist all changes other than proofreading corrections.
- 3. One of the most difficult areas has been the acceptance by the order writers of some of the key aspects of the new Order system, particularly the move away from prescriptive and detailed methodology. Analytical suggestions in this area have been the hardest to "sell," particularly in those organizations where Orders typically contained more detail.

STATUS UPDATE ON DIRECTIVES SYSTEM SELF-ASSESSMENT - 9-18-96

The attached Directives System Self-Assessment of June 1996 determined that the design of the new Directives System adheres closely to the Critical Requirements developed by the Directives Improvement Team, with 16 of the 20 fully addressed. The following is a status report of the <u>four</u> unaddressed Critical Requirements.

- 1. <u>Critical System Requirement F:</u> "The Directives System must require an implementation plan process for each directive. This plan will detail how the site is to achieve compliance with the requirements in a directive."
- 2. <u>Critical System Requirement O</u>: "Departmental guidance for prioritization of directives must be established."
- 3. <u>Critical System Requirement P</u>: "Directives, where applicable, must contain clear validation and acceptance criteria."

Comments for Critical System Requirements F, O, and P:

The following activities are currently under way to address these requirements: Development of the Directives Style Guide (planned to be completed in 1996); implementation of the Necessary and Sufficient Process concept, and Work Smart Standards.

4. <u>Critical System Requirement T</u>: "DOE must devote adequate resources at all organizational levels to administer all phases of the directives system."

Comments for Critical System Requirement T:

Lack of resources devoted to Directives throughout the Department appears to be the same issue on which the recommendations of the Directives System Mid-Course Assessment were made. The pace of System implementation is determined by availability of budgetary resources. Declining Federal staff levels dedicated to Directives will be a problem for all Departmental Elements for the foreseeable future unless appropriate management attention is given to this area.

Additional Comment/Update:

Critical System Requirements A and L require that a resource impact analysis must be prepared and subject to comment for directives (policy, mandatory requirements, and guidance), and implementation of directives requirements must be linked to resource allocations. Efforts are currently under way to include Cost Impact Assessments as part of the directive writing and coordination process. Cost Impact Assessments will be institutionalized into the Directives System via a Guide and changes to the Order and Manual.

AN EVALUATION OF THE DIRECTIVES SYSTEM OF THE UNITED STATES DEPARTMENT OF ENERGY

Assistant Secretary for Human Resources and Administration Office of Organization and Management

June 1996

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I. EXECUTIVE SUMMARY

A. Statement of Purpose

This study was conducted to evaluate the new Department of Energy Directives System of September 1993 (System) with primary emphasis on a comparison of the System operations as developed during the System improvement process against current operational practices. In addition to this primary focus, the study also considered: Defense Nuclear Facilities Safety Board (DNFSB) concerns with the System; lessons learned during the Directives Accelerated Reduction Effort; general problems with System operation; and possible performance measurement for future application.

B. Methodology

In order to determine if the System is operating as envisioned, the study team utilized the following 3 documents developed by the Directives System Improvement Team to determine how the System was envisioned during the improvement process: the Directives Customer Requirements Document, the System Specifications, and the System Implementation Plan. These documents developed and mapped the implementation of 20 Critical Requirements for the System. Each of the requirements was compared with the "Directives on Directives" (DOE P 251.1 DIRECTIVES SYSTEM, DOE O 251.1 DIRECTIVES SYSTEM, and DOE M 251.1-1 DIRECTIVES SYSTEM MANUAL) to determine if they were institutionalized in the System. Additionally, employees working with the Directives System were interviewed to determine if the requirements are now part of current operational practice. A detailed listing of this comparison is set forth in the APPENDIX to this evaluation. Employee interviews were also used to research and analyze DNFSB concerns, Accelerated Reduction Effort activity, general operational, and performance measurement issues. This evaluation did not include any discussions or interviews outside of the Directives System management and staff.

C. Summary Findings

From the review of documents and interviews with Directives staff and management, the team is able to make the following summary conclusions:

1. <u>System design and implementation</u>.

The design of the new Directives System adheres closely to the Critical Requirements developed by the Directives Improvement Project Team, with 16 of the 20 fully addressed. The new System design is strongest on Directives development issues, and weakest regarding the process for implementing requirements contained in newly developed Orders.

- The implementation issue is currently being addressed in the development of the Style Guide and by the Department Standards Committee's implementation of the Necessary and Sufficient concept.
- A requirement concerning provision of sufficient resources to administer the system has not been addressed, and will continue to be a problem in this era of resource constraint.
- 2. <u>System operation and administration</u>. Current System operation demonstrates "new system" teething problems that keep Directives staff and management in a continual crisis management mode. Directives System staff resources are and have been completely engaged in the development and coordination of planned System enhancements (Style Guide, Sunset Review, etc.), and managing influences and initiatives outside the control of the System Manager (Accelerated Reduction Effort, Directives Moratorium, DNFSB initiatives, etc.). The result has been the diversion of staff resources and management attention from setting and achieving long- term goals that would ensure the future health of the System. The System Manager needs to:
 - Develop long-term plans.
 - Develop a comprehensive outreach program.
 - Develop performance measures and institute a continuous improvement program.
 - Finalize the Directives Management Board Charter.
 - Utilize a Department-wide team approach to manage difficult issues.
- 3. <u>Automation</u>. Current innovative utilization of automated telecommunications by the Directives System is to be lauded. However, budgetary constraints will affect the level of effort provided in this area. Management and staff should continue its pursuit of new technological avenues to reduce staff resources devoted to process activities, and reduce turn around time for coordination of documents. Also, pursuit of paperless system should be considered as the Department becomes electronically interconnected and the use of the automated Directives System on Explorer increases. Funding for enhancements to Explorer for FYs 1997-98 should be pursued from the resources available from the IRM Council or, alternatively, the Directives activities may be nominated for inclusion in the Working Capital Fund.

II. FINDINGS AND RECOMMENDATIONS

A. SYSTEM DESIGN AND IMPLEMENTATION

In 1992, the Directives System Improvement Project Team developed a Requirements Analysis document which identified 20 system design requirements and 8 key operating principles that were considered "critical" to the success and acceptance of a new Directives System. In order to ascertain if the requirements and principles had been addressed during implementation of the new System, the Team: 1) reviewed the Directives implementing the System (DOE P 251.1 DIRECTIVES SYSTEM, DOE O 251.1 DIRECTIVES SYSTEM, and DOE M 251.1-1 DIRECTIVES SYSTEM MANUAL) to verify formal inclusion in System design, and 2) consulted Directives System management and staff members to determine the degree of incorporation into current operational practice. The evaluation team found that the design of the new Directives System closely reflects the 20 Critical System Requirements developed by the Directives System Improvement Project. Only 4 of the requirements have not been addressed in the new System.

The new System is weakest on implementation of requirements contained in Orders. Three of the 4 unaddressed Critical System Requirements developed by the Directives System Improvement Team related to the implementation process. At present, implementation issues are being addressed in two venues.

- o The Directives Style Guide, currently under development, will provide step-by-step guidance for the implementation of requirements contained in Directives .
- The Necessary and Sufficient concept developed by the Department's Standards Committee would allow Operations Offices and contractors to identify and implement those health and safety standards contained in Orders that will adequately protect workers, and the public.

The 3 unaddressed implementation requirements are discussed below.

1. Directives Implementation Plans

The Directives Improvement Process Team established a critical requirement for the preparation of implementation plans, detailing how sites would achieve compliance with requirements of new Directives. The requirement was included to: a) acknowledge that sites could not come into compliance with Orders on date of promulgation, and b) assure Field managers that funding and accountability issues would be agreed to before implementation. The requirement fit well with the line management accountability concept of the Watkins Administration. During the development of the October 1995 "Order on Orders," a decision was made not to include the requirement for implementation plans.

2. Directives Prioritization Guidance

The requirement to establish guidance on the prioritization of requirements contained in Directives was included to address Field and Program Manager concerns regarding the relative priority of Orders and the requirements within individual Orders. The Team could not determine a specific reason why this requirement had not been included in the design of the system.

3. Validation and Acceptance Criteria

This requirement was included by the Directives Improvement Process Team to address Field desire for a system of formal acknowledgment of successful implementation of Order requirements. The Team could not determine a specific reason why this requirement had not been included in the design of the system.

NO RECOMMENDATION: Activities currently under way, including development of the Directives Style Guide and implementation of the Necessary and Sufficient concept, satisfy the concerns expressed in the 3 requirements. (The remaining unaddressed requirement is discussed under Paragraph 4 on page 8.)

B. SYSTEM OPERATION AND ADMINISTRATION

The operation of the new Directives System is exhibiting "new system" teething problems that would attach themselves to the implementation of any innovative and complicated Department-wide system. These problems stem from HR-6 staffing resources being diverted from System operation activities (the processing and coordination of new Directives) by activities involved with implementing the final portions of System design. This condition is complicated by demands placed on the System by external initiatives, and by Department-wide constraints on staffing resources. These factors have produced a situation in which Directives staff and management are in a continual firefighting mode. These situations are discussed below.

1. System Enhancements and Refinements

The Directives staff is engaged in resource intensive activities relating to the development and coordination of planned system enhancements, and discussions and negotiations regarding what types of documents should be incorporated into the System. These issues are addressed below.

a. Issuance of Full and Consistent Guidance on All Parts of the Directives System

The Department has not issued guidance on the development of those portions of the system that do not carry mandatory requirement, e.g. Manuals and Guides. The development of a Draft Notice on Guides has been deferred. Requirements for Guides are being incorporated into Draft DOE M 251.1A, and general process guidance will be included in the Style Guide now under development and scheduled to be released for coordination by the end of FY 1996.

b. Standardized Terms and Definitions

A critical requirement established early in the Directives Improvement Process was the elimination of conflicts in definitions among Directives. The Department is in the process of developing a "Glossary" that will be institutionalized in the system. This document is now in the coordination process, with publication scheduled for July 1996.

c. Directives Cost Impact Analysis

The Directives System Improvement Team placed a high priority on the preparation of a resource impact analysis, subject to comment, during the development of Directives. The Department is developing a Cost Impact Analysis Model. The Model is scheduled for completion in late July 1996, and a pilot test will be completed in the fourth quarter of FY 1996. The pilot will cost-out impacts of a selected set of recently revised Orders. The lessons learned will be used to revise the Model which will then be incorporated into the Directives System via a Guide. The Guide will address exemptions from the requirement, cost thresholds, life cycles and methodology.

d. Sunset Review of Existing Directives

The Department is developing a three phase process to review all Directives not revised prior to June 1995. Phase I, which will concentrate on elimination of the remaining Secretary of Energy Notices (SENs) and all Directives issued prior to 1987 that are determined to be non-value added, is projected to be complete by September 1996. Phase II, slated for completion in the third quarter of FY 1997, will concentrate on Directives issued between January 1987 and December 1992. Phase III will look at Directives issued between January 1992 and June 1995. Directives published after June 1995 will be reviewed on the regular 2 year cycle set forth in the Directives Manual.

NO RECOMMENDATIONS: These activities, all well under way, are appropriate and support full implementation of the System. Activities should continue and progress should be managed and tracked.

2. Quality of Directives

Another resource intensive group of activities contributing to the crisis management atmosphere surrounding the Directives System deals with quality of Directives issues.

a. Directives Staff Writing Directives

The evaluation team repeatedly heard from the Directives staff that under the new System many Order writers have not proven capable of drafting documents of acceptable quality. This has resulted in Directives analysts being called upon to write or rewrite Directives under stringent time constraints.

b. Enforcement of Directives Management Document (DMD) and Coordination Requirements

The Directives staff has seen a significant number of draft Directives presented for coordination that have not been through the DMD process and draft Directives submitted for formal publication without proper coordination. Frequently, these Directives were developed without the knowledge or assistance of Directives analysts. Many of these incidences were caused by a lack of understanding of what the System requires and what the benefits to the Department of these requirements are. Other cases were caused by Directives management promising rapid approval and dissemination of Directives without discussion and agreement by staff.

c. Contractor Requirements Documents (CRD)

When determining the necessary parameters of the new System, the Directives System Improvement Team set forth a requirement that Directives have clearly defined applicability statements for M & O contractors. Therefore, the Directives Order and Manual require the inclusion of a CRD, as a separate attachment, in almost all new Orders. The CRDs were to be written in such manner that they can be incorporated into contracts as appropriate. A recent survey by the Directives staff indicates that most of the CRDs incorporated into the system to date have inadequacies that need addressing. Discussions with Directives management and staff indicate that the problems arise from: 1) Directives writers' unfamiliarity and inexperience with the CRD requirement; 2) policing CRDs have not been a high priority; and 3) exceptions granted by Directives management in cases where contractor requirements have been delineated in the body of Orders. According to Directives staff, inconsistent CRD enforcement has resulted in the CRD requirement not being taken seriously by Directives writers.

d. Insuring Feedback From Decision Points to Commenters During Coordination

There has been a reluctance on the part of many Directives originators to provide feedback to commenters regarding the disposition of comments. This was especially so during the Accelerated Directives Reduction Process. To this point, the Directives staff has taken the responsibility for making sure that this information is provided to the commenters. Directives staff state that their interactions with Directives writers indicate a lack of understanding of the new Systems issue resolution components. Directives staff are using a "Matrix of Comments" that organizes and sets forth Order comments, which is then provided to all commenters. It is being provided to Order writers as they work with Directives staff, and may be included in the Style Guide.

e. "Rogue" Directives

Directives management and staff are aware that standard setting and policy making documents that would appropriately fit into the Directives System are being created and promulgated within the Department. The Directives staff believes that the creators of these "rogue" documents are

unaware of the how the new System works. These document drafters are operating under the assumption that getting their document implemented through the Directives System will take them more that a year, as was the case with the old system.

RECOMMENDATION: The System Manager should initiate an education and training program for Directives originators. SEE RECOMMENDATION on Directives outreach under <u>Looking</u> to the future on Page 9.

3. "Outside Influences"

These "teething" problems have been exacerbated by influences and initiatives outside the control of those administering the System. In the recent past, these influences included the Accelerated Reduction Effort and Directives Moratorium, the management and implementation of which were significant drains on staff resources.

a. DNFSB Initiatives

Until recently, the DNFSB has limited their involvement to coordinating on a group of Directives in the list of "61 Orders of Interest to the Board." The Board is presently seeking to expand this involvement. The DNFSB has requested that revisions be made to the "Directives on Directives" (DOE O 251.1 and DOE M 251.1-1) that would ensure the Board's involvement at the developmental stage with all Directives containing nuclear facilities requirements. To address new concerns identified by Departmental Elements and other organizations, the Directives staff drafted a revision to the Directives Order and Manual. Along with addressing Board concerns, this document corrects inconsistencies in the Order and Manual that were discovered subsequent to their issuance. Discussions are ongoing.

RECOMMENDATIONS:

1. The Department of Energy and Board need to reach agreement on the scope of the Board's involvement in the Directives System. The Directives System is a corporate system owned by, and affecting, all Departmental Elements. At the present time, the System Manager is carrying the greatest portion of the burden of dealing with the Board on Directives issues. The System Manager should team with other interested Departmental officials to develop a corporate position regarding the Agency's interactions with the DNFSB. These officials could include representatives from the Departmental Liaison with the DNFSB, the General Counsel, and Program Offices with vested interest (Nuclear Safety portion of Environment, Safety and Health, Defense Programs, etc.).

2. The System Manager should work with other Departmental officials to foster a cooperative relationship with the Board. The development of a "win-win" relationship with the Board would limit the time and effort Directives management and staff devote to responding to Board requests and defending Departmental positions.

4. Adequate Resources at All Organizational Levels to Administer the New System

This was the fourth critical system requirement of the Directives Improvement Project that was unaddressed in the design and implementation of the new System. It was an unfortunate accident of history that the new System was implemented just as the Department was entering an extended period of Department-wide resource constraints. The provision of adequate staffing to administer the System at all organizational levels will remain a problem for the foreseeable future. Since 1994, HR-6 has utilized contractor support for editorial services averaging approximately \$300K per year. The effort appears to be fully funded for the remainder of FY 1996. It is assumed that the service will be required for FYs 1997-98. Budgetary constraints will affect the level of effort provided in this area.

RECOMMENDATION: The problem can be alleviated to some degree through an increased usage of automated telecommunications (Internet/Explorer/home pages, etc.) to coordinate Directives and communicate feedback and requirements, and by educating the Department regarding the new System, thereby increasing Directives quality and reducing the burdens on the staff. However, funding for enhancements to Explorer for FY 1997-98 should be pursued from the resources available from the IRM Council or, alternatively, the Directives activities may be nominated for inclusion in the Working Capital Fund.

5. Directives Management Board (DMB) Charter

The effective resolution of conflicts between Directives originators and commenters was one of the most important of the Critical System Requirements developed by the Directives System Improvement Project. The requirement is implemented by the creation of the DMB as set forth in DOE O 251.1. This Order holds the DMB responsible for resolving Directives issues that cannot be resolved through the coordination process, and prescribes its chair and membership. The DMB has demonstrated that it is an effective issue resolution body, in large part due to the Under Secretary. His interest and participation have caused many conflicts to be resolved prior to being raised to the DMB.

RECOMMENDATION: Absent the brief commission stated in DOE O 251.1, the DMB has no mechanism to institutionalize its activities or provide continuity during times of personnel change such as the transition from one Administration to another. The System Manager should capitalize on the successes the DMB has enjoyed and finalize an official charter. An official DMB Charter would institutionalize the active involvement of Senior Management and protect the Board's successes for the future.

6. Looking to The Future

As a result of start-up problems and exacerbating circumstances, Directives System management attention and staff resources are focused on short-term deadline-driven projects, crises, meetings and pressing problems. This has been to the exclusion of what Dr. Stephen Covey refers to as "Quadrant II" activities, i.e., preparation, prevention, planning, empowerment, etc., that hold the potential to alleviate some present and future workload problems, facilitate innovation, and permit the continuous improvement of the system. Although all of the current activities of the Directives personnel are important, at some point it becomes imperative that the future health of the System be attended to.

a. Planning

In order to transition from a crisis management mode of operation, a vision of where the System needs to go must be generated and plans laid to get there.

RECOMMENDATION: The System Manager should develop a 3 to 5-year Strategic Plan for the Directives System. The plan should include the outreach, continuous improvement and performance measurement, and teaming concepts discussed below.

b. Directives Outreach

The introduction of any new Department-wide system should be accompanied by education and communication programs that would facilitate its implementation. The new Directives System is showing signs of not having all members of the customer/user community "up to speed" on the System's requirements and benefits. Directives staff repeatedly expressed concern to the evaluation team regarding quality of Directives, including draft Directives submitted for coordination and Directives already in the system. In addition, concern was expressed regarding: Directives submitted without benefit of the DMD process, poorly written CRDs, and "rogue" Directives. The quality of Directives issues, which have driven up the workload of the Directives staff, stem from a lack of understanding of the requirements and benefits of the new System.

RECOMMENDATION: The System Manager should develop and implement a comprehensive outreach program. The program should include:

- A training program that would instruct and familiarize the System's users with all aspects of the system. The program should especially target those charged with managing the development of new directives. Possible educational tools include: wide distribution of the Style Guide (the Directives "How To" manual), training classes, on-line computer courses, and a summary level "Introduction to the Directives System" similar to the Work for Others Executive Guide.
- A mechanism for quickly communicating System information to, and gathering feedback from, the customer/user community. Existing telecommunications tools such as the

automated Directives System on Explorer, the Directives Bulletin Board, or DOE CAST could be used.

c. Performance Measures and Continuous Improvement

A requirement for the improvement of any system is the development of performance measures. Continuous improvement of the performance of the System was a Critical Requirement during the Directives System Improvement Process. To date, continuous improvement and performance measurement have not yet been institutionalized as a part of System operations.

RECOMMENDATION: The System Manager should initiate the development of relevant performance measures for the Directives System. Utilizing Quality Management methods such as customer surveys and/or focus groups, the System Manager could assess the level of satisfaction and concerns of the customer/user community. The performance measures developed for the Directives System should:

- Reflect the needs/desires of system customers/users (as opposed to internal production data).
- Have a Department-wide focus.
- Assure the regular procurement of customer feedback.

This process should be institutionalized within the Directives System.

d. Teaming

The Directives System is owned by all elements of the Department, and the difficult issues facing the System affect all of its users. There are benefits to be gained from addressing issues in a corporate fashion. By teaming with members of the Directives customer/user community, more efficient use could be made of increasingly scarce Organization and Management staffing resources, differing points of view could be considered, and identification of innovative solutions facilitated.

RECOMMENDATION: The System Manager should utilize, where appropriate, a team approach to solving specific Directives problems. Teams could include cognizant program officials, General Counsel representatives, subject matter experts, and be facilitated/managed by Directives System personnel.

C. AUTOMATION

The Directives System has recently embarked upon an innovative use of automated telecommunications. Directives are now available on-line via a World Wide Web application called Explorer. Through Explorer, all interested parties with Internet connection have access to all current, draft and archived Directives. Utilizing Explorer, the Directives staff is pursuing electronic coordination of Directives. The progress made thus far in automating the Directives

System is to be lauded. However, budgetary constraints will affect the level of effort provided in this area.

RECOMMENDATION: Management and staff should continue to refine and take advantage of the capabilities of Explorer, to reduce staff resources devoted to processing activities, and turn around time for coordination of Directives. In addition, the System Manager should consider moving to a paperless Directives System as the Department increases its level of telecommunications connectivity and use of the automated Directives System on Explorer increases. Funding for enhancements to Explorer for FYs 1997-98 should be pursued from the resources available from the IRM Council or, alternatively, the Directives activities may be nominated for inclusion in the Working Capital Fund.

TABLE OF RECOMMENDATIONS

SUBJECT SUBJECT	PECONDENDATION		
SUBJECT	RECOMMENDATION		
DNFSB initiatives. Current DNFSB initiatives to affect the design and operation of the System are absorbing management and staff attention. Until recently, DNFSB limited their involvement to coordinating Directives in "61 Orders of Interest to the Board." The Board is presently seeking to expand this involvement. The DNFSB has requested that revisions be made to the "Directives on Directives" (DOE O 251.1 and DOE M 251.1-1) that would ensure the Board's involvement at the developmental stage with all Directives containing nuclear facilities requirements. The Directives staff recently drafted a revision to the Directives Order and Manual which addresses appropriate concerns and inconsistencies discovered subsequent to Order and Manual issuance. Discussions are ongoing.	 The Department and DNFSB need to reach agreement on the scope of the Board's involvement in the Directives System. The System Manager should team with other interested Departmental officials (e.g., representatives from the Departmental Liaison with the DNFSB, General Counsel, and Program Offices with vested interest) to develop a corporate position regarding the Agency's interactions with DNFSB. The System Manager should work with other Departmental officials to foster a "winwin" relationship with the Board. This would limit the time and effort Directives management and staff devote to responding to Board requests and defending Departmental positions. 		
Adequate resources at all organizational levels to administer the new System. This was the fourth critical system requirement of the Directives Improvement Project that was unaddressed in the design and implementation of the new System. Unfortunately, the new System was implemented just as the Department was entering an extended period of Department-wide resource constraints. Adequate staffing to administer the System at all organizational levels will remain a problem for the foreseeable future. Since 1994, HR-6 has utilized contractor support for editorial services averaging approximately \$300K per year. The effort appears to be fully funded for the remainder of FY 1996. It is assumed that the service will be required for FYs 1997-98. Budgetary constraints will affect the level of effort provided in this area.	 The problem can be alleviated to some degree through (a) increased usage of automated telecommunications (Internet/Explorer/home pages, etc.) to coordinate Directives and communicate feedback and requirements; and (b) educating the Department regarding the new System, thereby increasing Directives quality and reducing the burdens on the staff. Funding for enhancements to Explorer for FYs 1997-98 should be pursued from the resources available from the IRM Council or, alternatively, the Directives activities may be nominated for inclusion in the Working Capital Fund. 		
Directives Management Board (DMB) Charter. The effective resolution of conflicts between Directives originators and commenters was one of the most important of the Critical System Requirements developed by the Directives System Improvement Project. The requirement is implemented by the creation of the DMB as set forth in DOE O 251.1. This Order holds the DMB responsible for resolving Directives issues that cannot be resolved through the coordination process, and prescribes its chair and membership. The DMB has demonstrated that it is an effective issue resolution body, in large part due to the present Under Secretary who has caused many conflicts to be resolved prior to being raised to the DMB. Beyond DOE O 251.1, the DMB has no mechanism to institutionalize its activities or provide continuity during times of Administration (personnel) changes.	The System Manager should capitalize on the successes the DMB has enjoyed and finalize an official charter. An official DMB Charter would institutionalize the active involvement of Senior Management and protect the Board's successes for the future.		
Planning. In order to transition from a crisis management mode of operation, a vision of where the System needs to go must be generated and plans laid to get there.	The System Manager should develop a 3 to 5-year Strategic Plan for the Directives System. The plan should include the outreach, continuous improvement and performance measurement, and teaming concepts discussed below.		

SUBJECT	RECOMMENDATION		
Directives outreach. The introduction of any new Department-wide system should be accompanied by education and communication programs that would facilitate its implementation. The new Directives System is showing signs of not having all members of the customer/user community "up to speed" on the System's requirements and benefits. Directives staff repeatedly expressed concern to the evaluation team regarding quality of Directives, including draft Directives submitted for coordination and Directives already in the system. In addition, concern was expressed regarding: Directives submitted without benefit of the DMD process, poorly written CRDs, and "rogue" Directives. The quality of Directives issues, which has driven up the workload of the Directives staff, stem from a lack of understanding of the requirements and benefits of the new System.	The System Manager should develop and implement a comprehensive outreach program. The program should include: - A training program that would instruct and familiarize the System's users with all aspects of the system. The program should especially target those charged with managing the development of new directives. Possible educational tools include: wide distribution of the Style Guide (the Directives "How To" manual), training classes, on-line computer courses, and a summary level "Introduction to the Directives System" similar to the Work for Others Executive Guide. - A mechanism for quickly communicating System information to, and gathering feedback from, the customer/user community. Existing telecommunications tools such as the automated Directives System on Explorer, Directives Bulletin Board, or DOE CAST could be used.		
Performance measures and continuous improvement. A requirement for the improvement of any system is the development of performance measures. Continuous improvement of the performance of the System was a Critical Requirement during the Directives System Improvement Process. To date, continuous improvement and performance measurement have not yet been institutionalized as a part of System operations.	The System Manager should initiate the development of relevant performance measures for the Directives System. Utilizing Quality Management methods such as customer surveys and/or focus groups, the System Manager could assess the level of satisfaction and concerns of the customer/user community. The performance measures developed for the Directives System should: - Reflect the needs/desires of system customers/users (as opposed to internal production data). - Have a Department-wide focus. - Assure regular procurement of customer feedback. This process should be institutionalized within the Directives System.		
Teaming. The Directives System is owned by all elements of the Department, and the difficult issues facing the System affect all of its users. There are benefits to be gained from addressing issues in a corporate fashion. By teaming with members of the Directives customer/user community, more efficient use could be made of increasingly scarce Organization and Management staffing resources, differing points of view could be considered, and identification of innovative solutions facilitated.	The System Manager should utilize, where appropriate, a team approach to solving specific Directives problems. Teams could include cognizant program officials, General Counsel representatives, subject matter experts, and be facilitated/managed by Directives System personnel.		

SUBJECT	RECOMMENDATION	
Automation . The Directives System has recently embarked upon an innovative use of automated telecommunications. Directives are now available on-line via a World Wide Web application called Explorer. Through Explorer, all interested parties with Internet connection have access to all current, draft and archived Directives. Utilizing Explorer,	1. Management and staff should continue to refine and take advantage of the capabilities of Explorer to reduce staff resources devoted to processing activities and turn around time for coordination of Directives.	
the Directives staff is pursuing electronic coordination of Directives. The progress made thus far in automating the Directives System is to be lauded.	2. The System Manager should consider moving to a paperless Directives System as the Department becomes electronically interconnected and the use of the automated	
	Directives System on Explorer increases.	
Budgetary constraints will affect the level of effort provided in this area.	3. Funding for enhancements to Explorer for FYs 1997-98 should be pursued from the resources available from the IRM Council or, alternatively, the Directives activities may be nominated for inclusion in the Working Capital Fund.	

DIRECTIVES COST IMPACT ESTIMATING PILOT ASSESSMENT OF PILOT TEST

Background:

In 1991, in response to the concerns of the Directives System user community, Human Resources convened a Directives System Improvement Team with membership that cross-cut all elements of the Department. The Team identified 20 requirements deemed critical to the success and acceptance of a "new" Directives System. One of these critical requirements was that a cost impact analysis, subject to comment, be prepared during the development of a draft Directive. An additional spur to this activity was the Strategic Alignment Initiative Implementation Plan recommendation that the Department: 1) address the cost implication of Directives, and 2) identify the source of funding to finance requirements contained in each new proposed Directive. This activity was also undertaken to address the Galvin and Yergin Task Force concerns over the burdensome impact of Departmental Orders, as well as cost impact issues raised by Senator Dominici's staff.

In January of this year, a Directives Cost Impact Team was chartered to develop and implement a cost impact model that would provide a standardized basis for measuring the cost impacts for canceled, revised, or new Directives. The Team was co-championed by the Manager of the Oakland Operations Office and the Director of the Office of Organization and Management, with membership drawn from both Federal and contractor sources. The Team developed a draft Directives Cost Impact Model that was circulated for comment in February.

Pilot Test:

Subsequent to model development the Team identified the need for a pilot to: 1) test the model's viability, and 2) determine if Directives System improvements and streamlining activities were achieving the intended savings. Seven recently revised Orders that cut across Environment, Safety and Health; Nonproliferation and National Security; and Field Management were selected as the test sample:

- 1. DOE O 430.1, LIFE CYCLE ASSET MANAGEMENT
- 2. DOE O 451.1 NEPA COMPLIANCE PROGRAM
- 3. DOE O 232.1, OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION
- 4. DOE O 210.1, PERFORMANCE INDICATORS AND ANALYSIS OF OPERATIONS INFORMATION
- 5. DOE O 420.1, FACILITY SAFETY
- 6. DOE O 151.1, COMPREHENSIVE EMERGENCY MANAGEMENT SYSTEM
- 7. DOE O 440.1, WORKER PROTECTION

A data call to the Heads of Departmental Elements was issued under the Deputy Secretary's signature on April 12. The deadline for responding was June 3. Respondents were to utilize the model to estimate the cost impact of implementing and following the Orders for a five-year period.

It should be kept in mind that the approach utilized during the pilot differs fundamentally from that envisioned for incorporation into the Directives System. For the pilot, affected organizations identified changes in requirements

for 7 existing Orders and then estimated the cost impact of each requirement change for each of the five years covered in the pilot. Cost estimating will be incorporated into the "front end" as a required element of Directives development and coordination process. In addition, the new cost estimating requirements will include a dialogue process that will allow for the exchange of information and early resolution of cost and implementation issues.

Summary Findings:

Cost Avoidance The input received from across the Department shows an estimated cumulative five-year cost avoidance of nearly \$114 million for these seven Orders. This is a preliminary figure from a pilot test. Undoubtedly the estimate would vary if the lessons learned during this test were applied in another call. Despite this variability the Team believes that the data demonstrates that cost avoidance from the Accelerated Directives Reduction Process and improvements made to the Directives System, when applied to the entire set of Departmental Directives, will likely satisfy the Secretary's commitment to the President that the Reduction effort will cut costs by at least \$100 million. Charts summarizing specific cost avoidance by Order and fiscal year follow the Order Specific Findings section. Note that Cost Avoidance is used instead of Savings because we anticipate in many instances the Department will be avoiding future expenditures that have not been budgeted.

<u>Lessons Learned</u>: The pilot participants agreed that the Model: 1) provides a structured approach to quantifying the cost impacts of implementing new directives, and 2) identifies the need for careful evaluation of Directive requirements when developing or revising Orders. In narratives submitted along with cost data, pilot respondents had the following comments/suggestions:

- o <u>Identification of Changes in Requirements</u>: Order writers should develop documents that clearly identify requirements that have been eliminated or created, concurrent with development of a new or revised Order and that clearly identify changes from the old orders. Several respondents were only able to provide rough estimates of impacts due to difficulty in comparing requirements in the revised orders with those in the old, and identifying new/eliminated requirements.
- o <u>Implementation Schedules</u>: Order writers should factor contract renegotiation and contract modifications timing into their cost calculations. There was some inconsistent application of the model by Field organizations due to varying estimates of when the Orders would be implemented and included in contracts. This inconsistency made it difficult to verify the data and to compare results of reporting organizations.
- Necessary and Sufficient Process: Order writers should take into consideration the applicability of their Orders to sites that have instituted a set of Work Smart Standards or who have an approved set of SRIDS. Organizations who had participated in the Necessary and Sufficient Closure Process as well as the Accelerated Directives Reduction Process found it difficult to clearly delineate cost impacts associated with each activity, because both processes resulted in cost impacts as a result of elimination or streamlining of requirements. Additionally, some Field organizations reported that one or more of the sample Orders did not apply to their site because they had begun a parallel pilot process to identify Work Smart Standards.
- o <u>Standardization Issues</u>: Respondents suggested that utilization of the following tools would facilitate future cost impact analyses:

- Specific cost categories should be developed. Providing examples of cost categories and leaving it up to the Order writer to address such items may not be sufficient to promote uniformity and consistency across the Department.
- Standardized cost data should be made available. Specific methods of cost determination should to be developed and provided to the Order writer (e.g., average salary and benefits, average lease costs for office space and/or equipment, average costs for office supplies and/or materials, etc.).
- Applicability to Sites: Field respondents who deal with a wide variety of facilities and sites suggested that Order writers should first perform an analysis (relating to the different sites in the Department) of the expected impact of the change/revision to the directive (e.g., what kind of facilities would be affected, which of the facilities could potentially have the greatest impact, etc.). They felt this kind of awareness on the part of the order writer would enhance the discussion between the order writers and commentors.

Order Specific Findings:

The following observations on each of the seven Orders included in the pilot are arranged by the highest to the lowest estimated cost avoidance. Note that the last Order, DOE O 440.1, Worker Protection, showed an estimated cost increase for each year, as explained below.

DOE O 430.1, LIFE CYCLE ASSET MANAGEMENT 5-Year Cost Avoidance of \$86.6 Million

The Life-Cycle Asset Management Order (LCAM, DOE O 430.1) had the largest estimated cost avoidance for the seven Orders sampled. The estimated cost avoidance of \$87M was primarily attributable to reduced requirements for design and construction costs. LCAM was specifically written to allow the contractors freedom from many compliance-oriented Orders and to be more efficient by following best business practices. Field offices that reported significant estimated cost avoidance for the LCAM Order were: Oak Ridge, \$19M; Chicago, \$17M; Idaho, \$16M; and Oakland \$11M.

For the Field, the changes made in this Order reflect a fundamental change to an approach to doing business that embodies the principles of contract reform and best business practices. In addition to savings accrued due to a reduction in the numbers of reports, in aggregate, of the number of sites that reported, the changes made appear to save on average over five percent of construction costs over the five years. The changes also reduce Headquarters' role in Field project management oversight activities, which can be expected to provide a significant cumulative cost avoidance. The reduction in Headquarters management oversight activities is attributable to conversion from thirteen prescriptive directives to one results-oriented, performance-based directive. This conversion encourages the use of industry standards and delegates approval authority to the Field Offices which also reduces the need for Headquarters management oversight.

DOE O 451.1, NEPA COMPLIANCE PROGRAM 5-Year Cost Avoidance of \$19.0 Million

Headquarters and Field organizations recognized a reduction in requirements in the changes made within this Order. This allowed all organizations to anticipate major cost avoidance due to the delegation of authority associated with approvals of Environmental Assessments and some Environmental Impact Statements. Changes in approval authority for Categorical Exclusion documents and concurrent, in lieu of sequential review of other

NEPA documentation, contribute significant cost avoidance. Additional costs associated with transitioning to the new Order are offset by the anticipated cost avoidance.

<u>DOE 0 232.1, OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION</u> 5-YEAR COST AVOIDANCE OF \$11.2 MILLION

Headquarters and Field organizations reported that the changes made in this Order represented a reduction in requirements. However, some organizations did not report cost avoidance, since the transition to the new Order is still in progress. Other Headquarters and Field organizations

identified two major changes as responsible for the cost avoidance estimated to be realized from this Order.

- (1) A number of reporting criteria have been changed or reduced, which should result in fewer occurrences being reported each year.
- (2) For every reported occurrence, the 10-Day Report has been eliminated.

<u>DOE O 210.1, PERFORMANCE INDICATORS AND ANALYSIS OF OPERATIONS INFORMATION 5-YEAR COST AVOIDANCE OF \$5.4 MILLION</u>

Both Headquarters and Field organizations anticipate cost avoidance primarily due to the new Order's elimination of the requirement for the Quarterly Performance Measures report. Oak Ridge Operations anticipates a savings of \$1 million per year, accounting for 92% of the anticipated cost avoidance. Most other field organizations reported no cost avoidance for this Order, because they had already transitioned to performance-based contracts that includes similar reporting measures. Three organizations, two field offices and one program office, reported costs exceeding cost avoidance for this Order. These anticipated costs were \$152,000, only a small fraction of the overall anticipated cost avoidance. Environmental Management (EM) anticipated a cost of \$121,000, nearly 80% of the total implementation cost. EM estimated that this cost would be necessary to maintain a Management Information System containing appropriate performance indicators, performing periodic updates, ensuring that the indicators are accurately measuring performance, and are resulting in improved performance.

All other Headquarters organizations reported either no impact or a cost avoidance associated with this Order.

DOE O 420.1, FACILITY SAFETY 5-Year Cost Avoidance of \$2.6 Million

This Order incorporated portions of several predecessor Orders and resulted in a true dichotomy of views between the Field and Headquarters. The Field anticipates an increase in costs. These costs are associated with newly required assessments of natural phenomena hazards and fire capabilities. These costs are somewhat offset by cost avoidance associated with this Order's applicability to only nuclear facilities, while previous Orders applied to all facilities. The cost avoidance is not considered sufficient to offset the increased costs at the field level for the years 1997-1999.

At Headquarters, fewer meetings and oversight reviews are anticipated. Environmental Management anticipated that the changes would result in a labor reduction of several full-time employees. Overall, the cost avoidance associated with this order at Headquarters is more than the increase in costs for the Field.

DOE O 151.1, COMPREHENSIVE EMERGENCY MANAGEMENT SYSTEM 5-YEAR COST AVOIDANCE OF \$1.2 MILLION

Most cost avoidance from this Order results from changes in the requirements for emergency management training and exercise frequency. The cost avoidance is somewhat offset by costs associated with the transition to new requirements and the inclusion of some new requirements in the revision. Because there were significant changes in responsibilities for the Headquarters Emergency Management Team, several program offices reported costs associated with maintaining their old organizations until a new Headquarters Emergency Plan is finalized.

The cost avoidance for emergency management training and exercise frequency at Oak Ridge Operations occurred prior to revision of DOE O 151.1. Their experience in implementing a reduced set of requirements was instrumental in the training and exercise frequency changes made in this Order.

DOE O 440.1, WORKER PROTECTION 5-Year Cost Increase of \$11.8 Million

Several previous Orders were combined to create this Order. Nearly all responding organizations believe that the new Order added requirements that did not exist in the preceding Orders.

The Field anticipates significant cost increases due to increased requirements in the areas of fire protection, construction safety, industrial hygiene, industrial safety, and firearms safety. The Field also expects increased costs in transitioning to the new Order. Some of the transition costs include: reviewing the new Order and restructuring the applicable procedures and control manuals, developing industrial hygiene baseline surveys to evaluate potential health risks, and coordinating industrial hygiene activities with other offices.

At Headquarters, increased costs are anticipated because of new requirements for additional on-site reviews. These reviews are expected to result in added costs for travel to Field locations.

ESTIMATING COST IMPACTS

In order to institutionalize estimating cost impacts of new, revised or cancelled directives, the Directives System documents are being revised to emphasize the importance of this activity. Identification of changes (location) in draft documents currently in process:

DRAFT DOE O 251.1A, DIRECTIVES SYSTEM:

4. <u>REQUIREMENTS</u>. D.

"A Cost Impact Estimate (DOE M 251.1-1A, Chapter II) shall be prepared during the draft cycle for each Order, Notice, or Manual with new, modified, or canceled requirements. [THIS REQUIREMENT WILL NOT BE IMPLEMENTED UNTIL DOE G 251.1-2 IS FORMALLY ISSUED.]"

DRAFT DOE M 251.1-1A, DIRECTIVES SYSTEM

CHAPTER II - DIRECTIVES DEVELOPMENT 1. <u>RESPONSIBILITIES</u>. e. (3)

"Prepare a cost impact estimate [paragraph 2.b(6)] for each Order, Notice, or Manual with new, modified, or canceled requirements."

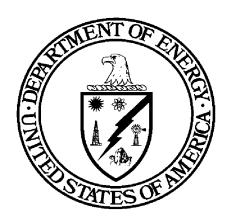
Paragraph 2.B(6)

"The Office of Primary Interest shall prepare the cost impact estimate for each Order, Notice, or Manual with new, modified, or canceled requirements."

DOE G 251.1-2

09-13-96

DIRECTIVES COST IMPACT ESTIMATING GUIDE



U.S. DEPARTMENT OF ENERGY

Assistant Secretary for Human Resources and Adminstration Office of Organization and Management

September 1996

Distribution: All Departmental Elements

Initiated By:

Corporate Management Group

DIRECTIVES COST IMPACT ESTIMATING GUIDE

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I. INTRODUCTION

This document provides a tool for the Departmental Order owner (the Office of Primary Interest or OPI) to use in developing a cost impact estimate for a directive under development, as required by DOE O 251.1, DIRECTIVES SYSTEM, paragraph 4d. A cost impact estimate is developed to measure the anticipated increase or decrease in the costs associated with the implementation of a directive's requirements.

The pricing out of directives was incorporated into the Directives System based on customer concerns. In the past, new directives and revisions to existing directives sometimes imposed additional requirements without allowing Headquarters Elements, Field Elements, and contractors to comment on the cost of implementation and the potential for cost savings and avoidance.

Recently, the Department has made an effort to streamline its base of internal management directives and to incorporate them into daily operations. Non-value added requirements have been eliminated, similar functions consolidated, and redundant requirements eliminated. In addition, directives are being revised to accommodate the Department's transition to performance-based management. Accordingly, cost impact estimates for new or revised requirements should account for a number of factors in addition to the cost considerations of programmatic, health and safety, and administrative requirements.

II. GENERAL EXPECTATIONS

Cost estimating and directives development should be conducted in parallel as follows. (See Table 1.)

- The OPI provides advance notification to Departmental elements of proposed new or revised DOE Orders and Manuals via a Directives Management Document (DMD). (See DOE M 251.1, Chapter II.) The DMD reflects preliminary cost documentation, potential cost drivers, and conceptual changes to directive requirements. The DMD is used to solicit Departmental participation in the development of both the directive and the associated cost impact estimate.
- Based on information and assumptions provided in the DMD, a team of Departmental subject matter experts identify the requirements changes (from existing to new/revised directives), further refine cost drivers, and develop initial cost impact estimates.
- The OPI develops a consensus cost impact estimate through subjecting the initial cost impact estimate to the directives coordination issue resolution processes. (See DOE M 251.1, Chapter III.)
- The OPI issues the consensus cost impact estimate with the final directive.

Table 1. Cost Estimating and Developing Directives in Parallel

DIRECTIVES DEVELOPMENT PROCESS	COST ESTIMATING PROCESS
The OPI develops the DMD to notify Departmental elements in advance of proposed new or revised directives and to request participation on a writing team.	The OPI provides preliminary cost documentation on DMD (e.g., assumptions for determining cost impact and potential cost drivers).
The OPI forms a directive writing team comprised of subject matter experts and directives implementors representing a cross section of the Department.	 Writing team of subject matter experts: identifies changes in requirements (from existing to new/revised directives), evaluates proposed cost drivers, develops cost estimating methodology, and conducts limited data call for specific information to complete cost estimate.
The OPI formally coordinates draft directive with Departmental elements.	The OPI includes preliminary cost estimate developed by team in the draft directive.
Order writer resolves major issues identified by commentors.	Order writer develops best consensus cost estimate.
Directives System Manager issues final directive.	Final directive includes the consensus cost estimate.

III. PROCESS METHODOLOGY: DEVELOPING THE COST IMPACT ESTIMATE

A. GENERAL ASSUMPTIONS FOR PREPARING ALL COST ESTIMATES

Total costs for an Order should be estimated from the start of implementation until the end of the life of the Order, if possible.

 $\label{eq:LifeCycleCost} \begin{cal}Life Cycle Cost (LCC) = (Cost Savings/year + Cost Avoidance/year - Cost of Maintenance/year) x \\ Lifetime - Cost of Initial Implementation. \end{cal}$

A lifetime of 10 years may be assumed for the Order in lieu of specific lifetime estimates. Costs should be fully burdened (i.e., they should include direct and indirect costs including overhead); however, it is not necessary to provide separate estimates for direct and indirect costs. For example, if labor costs are used to calculate savings, use of a labor rate including all direct and indirect costs is sufficient (See Appendix B). The source of the labor rate should be documented.

B. COST CALCULATIONS AND CONSIDERATIONS

1. General

Generally, cost estimates should focus on major cost drivers. Using Pareto's Law, approximately 80% of the costs are likely to be found in 20% of the activities. Since these activities are most variable or sensitive to change, these activities are known as cost drivers. Potential cost drivers are identified by the OPI and reflected in the DMD, as shown in Table 1.

• The quality and accuracy of the preliminary cost estimate will vary depending on the subject matter and available cost data. The cost estimates developed by the OPI and Directives Development Team would probably be rough order of magnitude estimates (i.e., estimates within ± 40% as shown in draft DOE G XXX.X, formerly Volume VI, of the DOE COST Estimating Guide.

2. <u>Cost Impact Estimates Generated by Subject Matter Experts</u>

The key to estimating cost impacts of new or revised directives requirements is the involvement of subject matter experts—individuals who represent the various Departmental elements covered by the directive and who are familiar with programmatic aspects of their sites or offices. For instance, a directive on project management should be reviewed by persons from each site with extensive experience in project management and a general knowledge of waste management, environmental restoration, energy research, and other site programs. In addition to the information provided by subject matter experts, it is critical that the OPI obtain information about administrative and management processes and how those processes are likely to affect costs.

Subject matter experts should be able to provide the following information.

- a) Identify the major cost drivers of the old requirements and the new requirements. Some sample cost drivers are shown in Appendix A.
- b) Identify cost drivers that are not affected by the changes in requirements.
- c) Compare cost drivers of the old directive with those of the new directive by estimating the following.
 - Cost drivers of the old requirements that are being eliminated.
 - Cost drivers added by the new requirements.
 - Cost drivers that change as a result of the new requirements.
- d) Generate estimates for high, medium, and low applications of requirements for which a graded approach will be used.

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e) Document the assumptions, estimating methodologies, and sources of data used to develop the cost impact estimates. This enables the OPI to refine the cost estimates as the new directive is implemented by comparing the consensus cost impact estimate with actual costs.

Such assumptions might include the date of directive implementation, cancellation of other directives, applicability to various types of projects/facilities, programmatic upsizing or downsizing (as stated in strategic plan implementation plans); anticipated effect of business process reengineering; variation in anticipated overhead or indirect contributions, etc.).

3. <u>Estimating Cost Drivers</u>

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Resources are available to assist Directives Development Teams with developing cost impact estimates. For example, a reference which discusses various cost estimating methodologies can be found in draft DOE G XXX.X, formerly the Cost Estimating Guide, Volume 6, which is on the Office of Field Management Home Page. The Department's Committee for Cost Methods Development, which has members from all sites, should also be able to assist. The Committee can be contacted through the Office of Field Management at 202-586-9706 or INTERNET - juan.castro@hq.doe.gov.

Although cost drivers can be estimated in several different ways, the method that might be most appropriate for estimating the cost impact of new or revised requirements for which little data is available is the expert opinion technique. For instance, new requirements might increase or decrease construction, operation, or inspection costs. To estimate the impact of each cost driver, subject matter experts would discuss possible ways of estimating the cost drivers and then would estimate the percentage increase or decrease in construction costs. A consensus among subject matter experts is the ultimate objective of this technique. At some point, subject matter experts would be likely to require data from their offices or sites. In this example, each subject matter expert would need to obtain the total life cycle costs (with all burdens) to calculate the total cost of the cost driver. (See Appendix B.)

As directives are implemented, cost impacts among various Departmental elements can be compared so that differences in the way the directive is interpreted or implemented can be identified and appropriate actions taken to ensure that the directive is implemented consistently and effectively throughout DOE.

4. Example

An example of estimating the cost impact associated with an order revision follows.

PART I: IDENTIFICATION OF COST DRIVERS

After considering revised DOE O XYZ, which includes requirements changes affecting administrative, program, and site costs (see Appendix A for examples), Departmental Elements identified the following cost drivers.

Administrative Cost Drivers - not significant

Site Cost Drivers

New pollution monitors will be required.

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Program Cost Drivers

Frequency of employee retraining will be decreased.

PART II - COST IMPACT ESTIMATE

Assumption: All dollars are FY 96

Cost Savings/Cost Avoidance are expressed as a (+)

Implementation and Maintenance costs are expressed as (-)

SITE COSTS - Costs will increase due to requirement for new pollution monitors.

Plant/Infrastructure Support

a. Cost of new pollution monitor

Monitors are required at each site - 35 sites

1 monitor for each of 16 sectors around plant + 4 spares = 20 monitors per site

Cost of Monitor from GSA catalog

20 monitors per site x 35 sites x \$50,000 per monitor = \$35,000,000

b. Cost of site preparation for monitors

Assumption: 2/3 of site preparation costs will be middle case; 1/6 low case; and 1/6 high case (Source: Manufacturer Installation Specifications)

Cost estimates: Low case: \$2,000; High case: \$7,500; Middle case: \$5,000

Weighted average cost estimate - $[\$2,000 + (4 \times \$5,000) + \$7,500]/6 = \$4,197$

 $16* \times 35 \times \$4,197 = \$2,350,320$

*excludes 4 spares

c. Cost of maintaining/calibrating monitors - \$500 per monitor per year (Source: Manufacturer)

Assumption: All monitors, including spares, will require maintenance and calibration

 $20 \times 35 \times $500 = $350,000$

PROGRAM COSTS - Retraining for all employees changed from annual to 2-year basis

On Site Surveillance

Assumption: Available hours not used for training will result in workload accomplishment

Represents change from 4 hours required training/year to 2 hours.

96,480 employees at DOE facilities and sites (Source: Human Resources Report)

\$55 Fully Burdened Average Labor Rate (Source: CFO)

2 hours x 96,480 employees x \$55 = \$10,612,800 =savings

TOTAL LIFE CYCLE COSTS

LCC = (Cost Savings/year + Cost Avoidance/year - Cost of Maintenance/year) x Lifetime - Cost of Initial Implementation

Cost Savings/year = training costs = \$10,612,800

Cost Avoidance/year = 0

Cost of Maintenance = Cost of Maintaining/Calibrating Monitors = \$350,000

Cost of Initial Implementation = Cost of New Monitors = (\$35,000,000) + Site Preparation (\$2,350,320) = \$37,350,320

Lifetime = 10 years assumed

 $LCC = [\$10,612,800 + 0 - \$350,000] \times 10 - \$37,350,320 = \$65,277,680$ savings over 10 years

ATTACHMENT 1 EXAMPLES OF COST DRIVERS

A. ADMINISTRATION/MANAGEMENT & SUPPORT

Mailing Costs

- Increase/decrease in # of distribution points
- Increase/decrease in FTE utilization

Copying Cost

- Increase/decrease in cost of paper
- Increase/decrease in FTE utilization

Contractor Support

- Increase/decrease in \$ expended for contract support
- Increase/decrease in FTE utilization for contractor oversight
- Increase/decrease in # of and frequency of reports

Contractor Modifications

- Increase/decrease in # of FTEs utilized to complete contract modifications
- Increase/decrease in # of modifications distributed

<u>Meetings</u>

- Increase/decrease in \$ expanded for conference meeting space
- Increase/decrease in \$ expended for travel

Legal

- Increase/decrease in # of FTEs expended to provide advice/interpretation

External Interaction

- Increase/decrease in # of reports generated/distributed
- Increase/decrease in travel cost
- Increase/decrease in # of FTEs to respond to inquiries

Record Keeping

- Increase/decrease in #/type of records retained
- Increase/decrease in # of FTEs utilized to maintain
- Increase/decrease in # of square footage of leased space

Cycle Time Reduction Costs

- Reduction of process/development/approval time, process improvements,
- Increase/decrease in delay cost due obtaining clear interpretation of requirements
- Increase/decrease due to elimination of reporting requirements

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B. PROGRAM

Reporting

- Increase/decrease in # of reports required
- Increase/decrease in # of report distribution points

ES&H

- Increase/decrease in inspections, reports
- Increase/decrease in FTE utilization for oversight activities, external, internal

Reviews/Assessments

- Increase/decrease in # of review/assessments
- Increase/decrease in associated administrative costs to sites/offices
- Increase/decrease in # of FTEs associated with reviews and assessments
- Increase/decrease of team travel \$

Construction

- Increase/decrease in cost for new construction, restoration, & waste management starts
- Increase/decrease in cost for building upgrades/D&D
- Increase/decrease in cost for construction, engineering and design documents required
- Increase/decrease in cost for code requirements

Project/Program Management

- Increase/decrease in # of planning and design reviews
- Increase/decrease in \$ expended for Architecture and Engineering services
- Increase/decrease in FTE \$ for project/program management

On-Site Surveillance

- Increase/decrease in the # of scheduled assessments/reviews
- Increase/decrease in training \$ expended (e.g., technical qualifications, training)
- increase/decrease in the #'\$ of FTEs on-site

C. SITE

1. Plant/Infrastructure Support

Utilities

- Increase/decrease in cost for utilities
- FTE utilization increase /decrease associated with utilities operations and maintenance
- Increase/decrease in rent, equipment, etc.

Roads & Grounds

- Increase/decrease in maintenance cost
- Increase/decrease in road construction
- Increase/decrease in support service contractor costs

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Building Maintenance

- Increase/decrease in maintenance cost
- Increase/decrease in FTE utilization \$ for building operations
- Increase/decrease in safety assessments and reporting

2. Safeguards & Security

Guard Force

- Increase/decrease in on-site surveillance
- Increase/decrease in transportation of materials
- Increase/decrease in training

Physical Plant

- Increase/decrease in monitoring & security equipment
- (Increase/decrease in operational downtime)
- Access controls
- increase/decrease in FTE utilization for background investigations/clearances

3. <u>Historical Preservation</u>

Native American Tribes

- increases/decreases in FTE utilization due to increased/decreased interaction
- Increase/decreases in training/travel, etc.

ATTACHMENT 2 CATEGORIES FOR CONSIDERATION

A. DIRECT COSTS

1. Administration/Management & Support

Mailing

Copying

Contractor support

Contractor modifications

Meetings

Legal

External interaction

Record keeping

Cycle time reduction costs

2. Program

Reporting

ES&H

Reviews/assessments

Construction

Project/program management

On-site surveillance

3. Site

- a. Plant/Infrastructure Support
 - Utilities
 - Roads & grounds
 - Building maintenance
- b. Safeguards & Security
 - Guard force
 - Physical Plant
- c. Historical Preservation
 - Native American tribes

B. <u>INDIRECT COSTS</u>

Any cost incurred for common objectives that cannot be directly charged to any single point of cost application are indirect costs. Overhead is allocated to various categories of work in proportion to the benefit of each category and is equivalent to the term, "indirect cost." In May 1994, the Chief

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Financial Officer defined different types of indirect costs. (For exact terminology and indirect cost structure, see page 14)

1. Organizational Overhead (previously referred to as Added Factor)

At the Federal level (both HQ and Field), organizational overhead should be added to the direct costs accumulated when developing the cost estimate. These rates are subject to change annually. (For FY 1996, the HQ rate is 4.3% and the Field rate is 1.9%.)

2. Non-Federal Indirect Costs

At the contractor level, indirect costs at the appropriate overhead rates for applicable facilities should be added to the direct costs accumulated when developing the cost estimate. The definitions cited above may vary from contractor to contractor because of a contractor's unique corporate structure and cost accumulation capabilities. However, these definitions should aid in determining the types of costs that should be used for burdening the direct costs and conceptually be included as part of the cost estimate.

OFFICE OF ORGANIZATION AND MANAGEMENT

The Office of Organization and Management is responsible for ensuring that the Department's organization and management systems and policies facilitate effective and efficient achievement of the Department's goals. The Office provides organization and management consultation, advice and support services to Departmental Elements, and encourages pursuit of the Secretary's goals and guiding principles of the National Performance Review. The Director is the principal advisor to the Assistant Secretary for Human Resources and Administration on key Departmental management activities.

One of the principal functional areas of the Office is to manage the Departmental directives system and coordinate Directives Management Board activities. The Director of Organization and Management is the Directives System Manager, and is supported by the Corporate Management Practices Group within the Organization. Currently, approximately 8 Full-Time Equivalent (FTE) employees in the Group are dedicated to Directives system management, and it is expected that the FTEs will be reduced by 3 FTEs in the near future (due to retirements). Some specific functions in managing the Departmental directives system include:

- o Establishing the Department's Directives system standards and requirements, managing and coordinating implementation of the system, and providing for system training.
- o Developing, implementing, operating, and enhancing the automated support system for Departmental directives, and formally coordinating all other Department-wide directives related activities.
- o Managing the Departmental and Human Resources directives reduction effort.
- o Providing analytical and administrative support to the Directives Management Board to facilitate clear resolution of major directives issues.

DIRECTIVES POINTS OF CONTACT

The following exhibits the Grade level of each Directives Point of Contact within the Department, their location within their organization, and the total number of employees within their organization.

			Organization
<u>Organizati</u>	ion Series/Grade	Position Location	OnBoard level
CD	242/12	Office of Description Management	105
CP	343/13	Office of Resource Management Office of Human & Administrative Resources	105
DP	343/13		351 540
EE	301/11	Management Systems & Institutional Interactions	540
EH	301/11	Division Pudget and Administration	415
En EM	301/11	Budget and Administration Management Systems Division	677
		Management Systems Division	
FE + Fld	343/9	Management and Administration Division	759
HR	340/ES 343/12	Office of the Assistant Secretary	777
		Office of Training and Resource Development	
	343/13	Office of Personnel Policy, Programs & Assistance	
	303/8	Resource Management Staff	
	343/ES	DAS for Procurement and Assistance Management	
	303/7	Office of Executive Secretariat Office of Administrative Services	
DO	301/9		192
PO	343/15	Office of Resource Management	183
EI	301/9	Office of Planning, Management, and Information Services	445
EM (343/13		
FM	301/11	Office of Resource Management and Services	66
CR & QM		Resource Management Staff	263
RW	343/14	Administrative Division	220
ED	343/14	Office of Economic Impact & Diversity	50
ER	343/12	Policy and Management Analysis Division	324
GC	905/ES	Assistant Counsel for General Law	193
HG	930/14	Docket and Publications	61
IG	318/8	Office of Field Operations and Administration	317
NN	340/15	Office of Emergency Management	343
	080/ES	Policy, Standards and Analysis Division	
NE	343/12	Office of Planning and Anaysis	143
ET	301/9		
OSTI	343/12		
AL	344/7	Albuquerque Operations Office	1482
CH	334/12	Chicago Operations Office	509
ID	344/7	Idaho Operations Office	419
NV	343/9	Nevada Operations Office	378
OK	326/6	Oakland Operations Office	404
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OR	343/12	Oak Ridge Operations Office	675
RL	343/13	Richland Operations Office	530
SR	830/13	Savannah River Operations Office	581
GO	343/13	Golden Field Office	59
RF	201/12	Rocky Flats Office	296
ОН	303/5	Ohio Field Office	235
PMA Liai	son 301/12		
APA	340/15	Alaska Power Administration	23
BPA	343/12	Bonneville Power Administration	3191
SEPA	344/7	Southeastern Power Administration	42
SWPA		Southwestern Power Administration	184
WAPA	343/11	Western Area Power Administration	1320